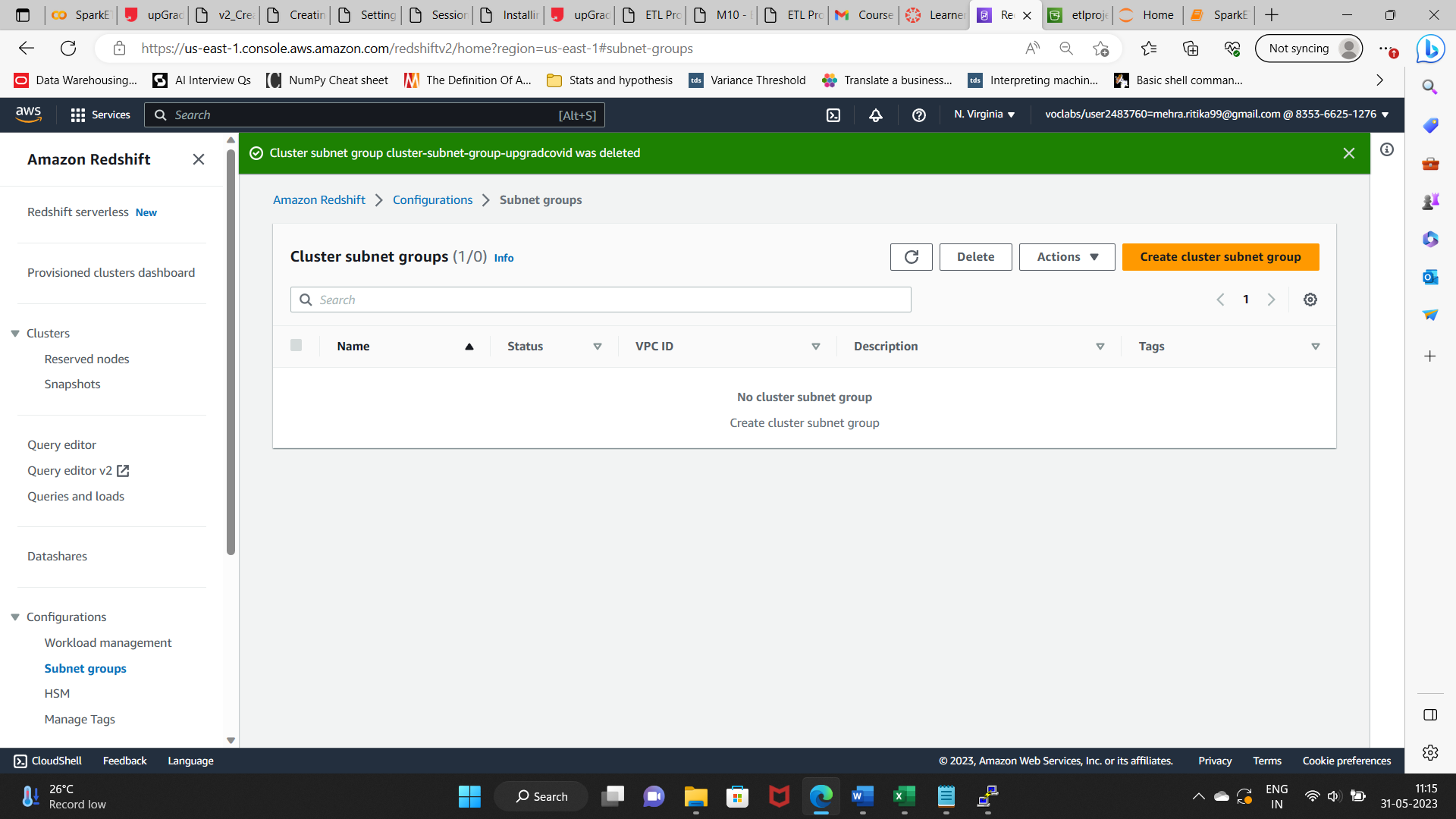
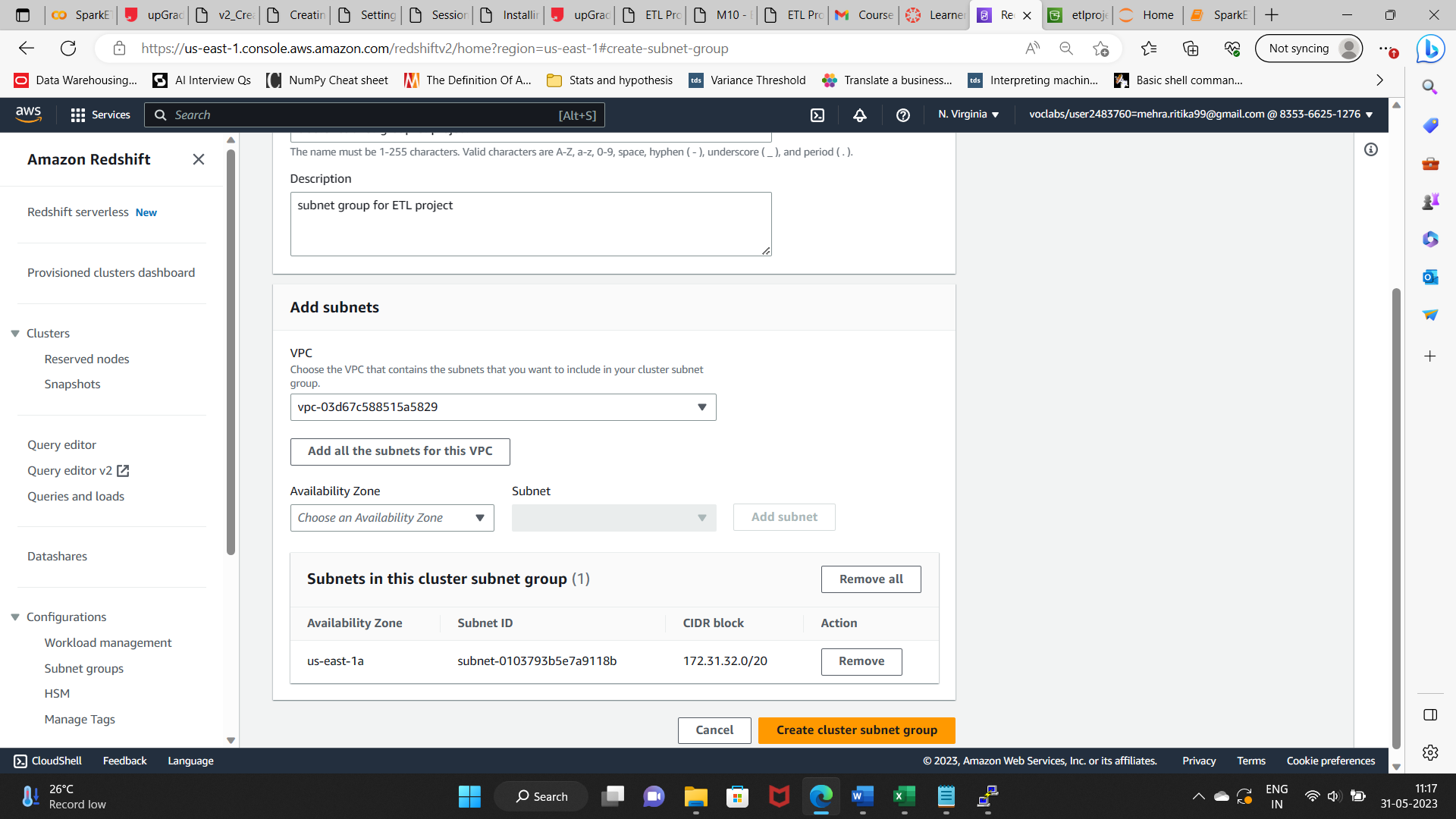
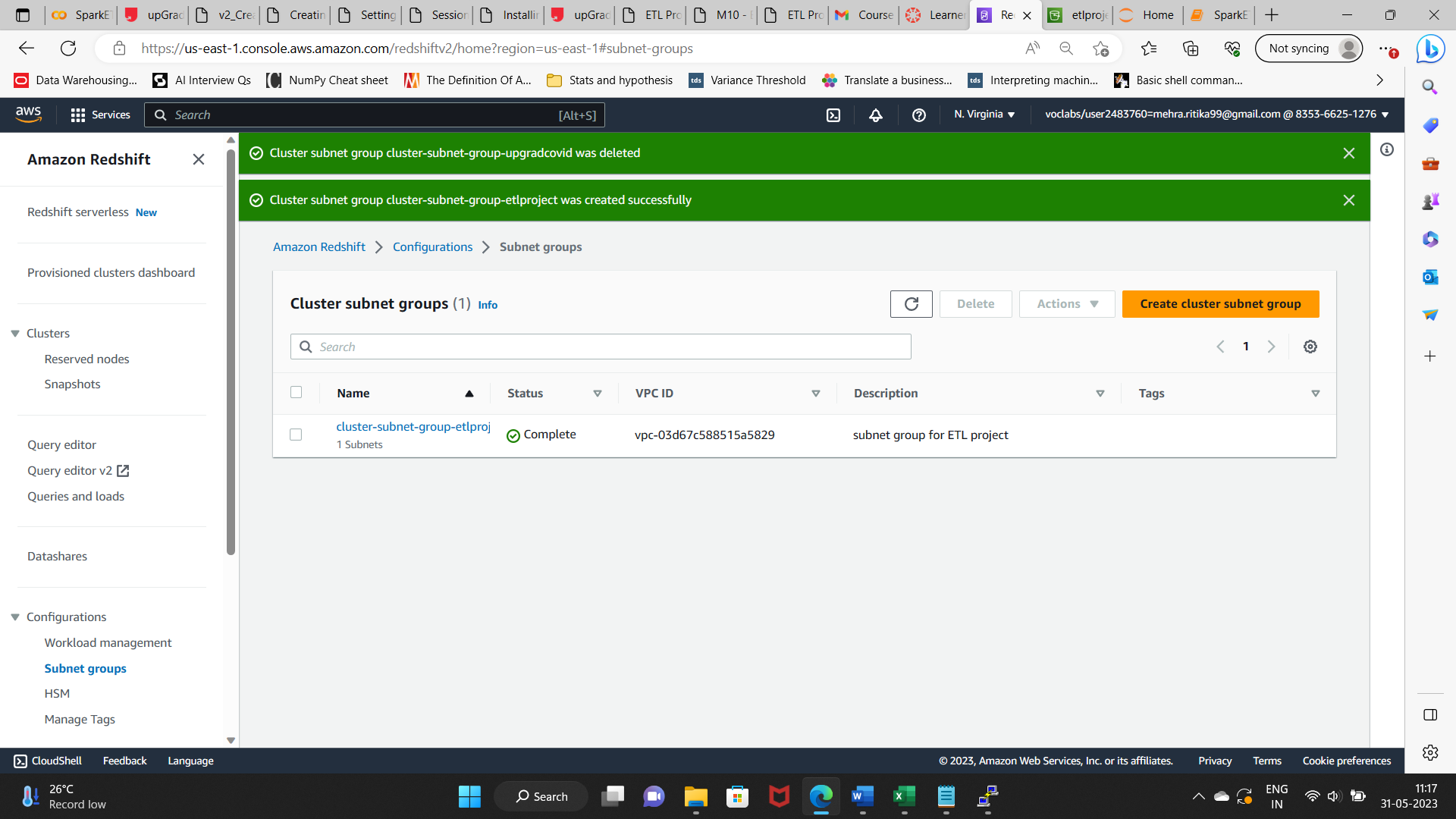
### Creation of a Redshift Cluster

**Screenshots of the configuration of the Redshift cluster that you have created:**

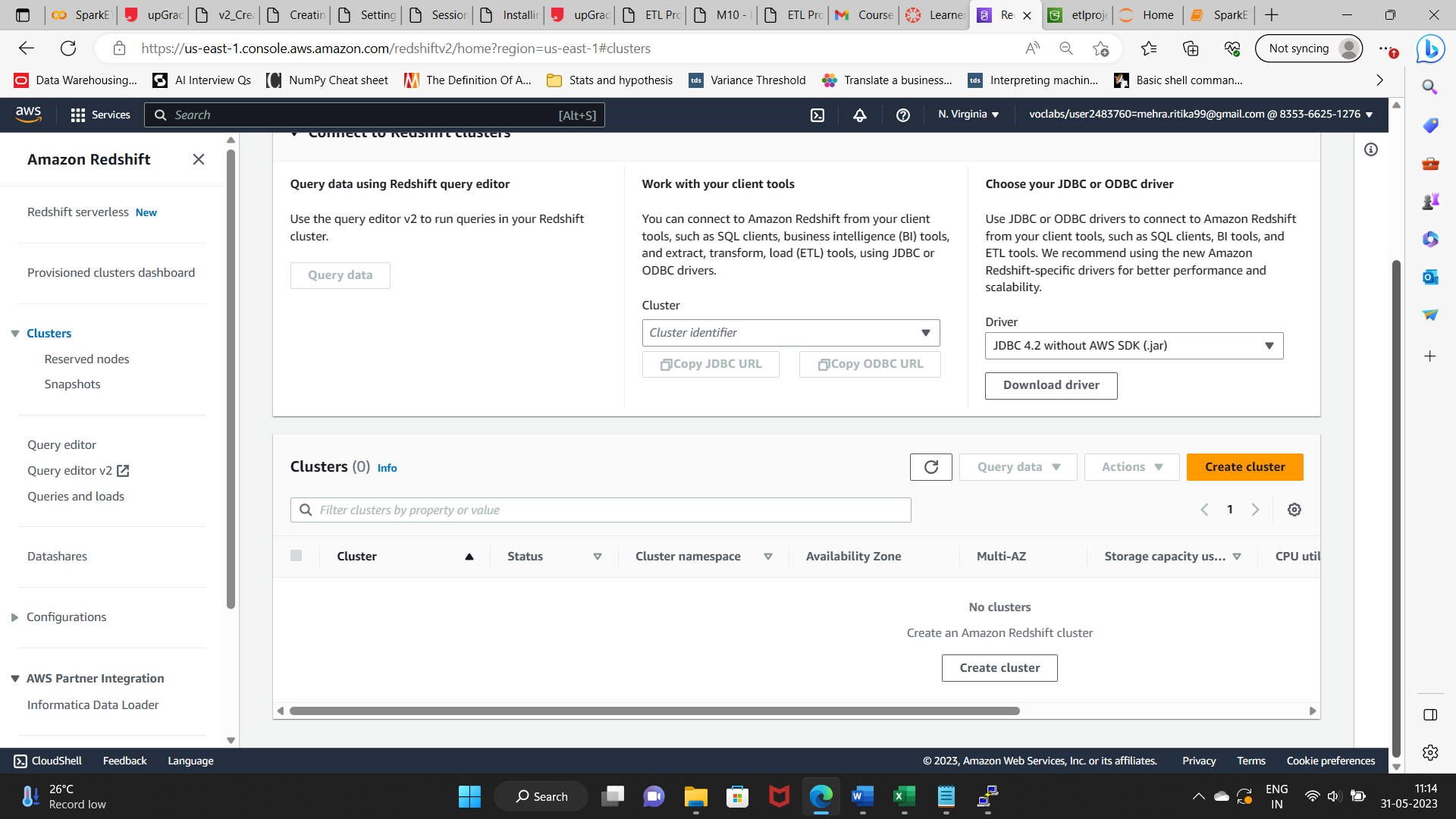
1. Creating subnet group

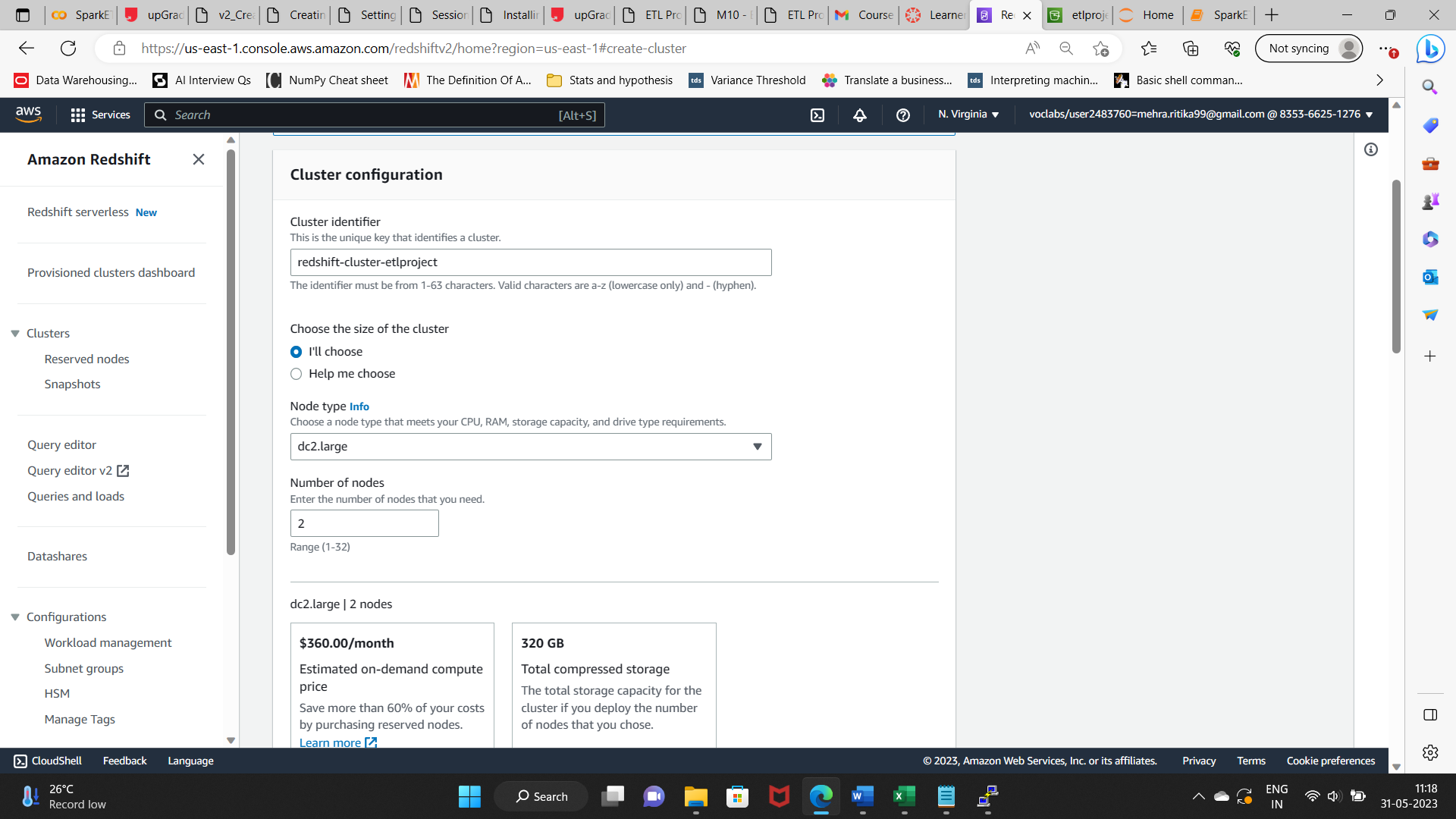


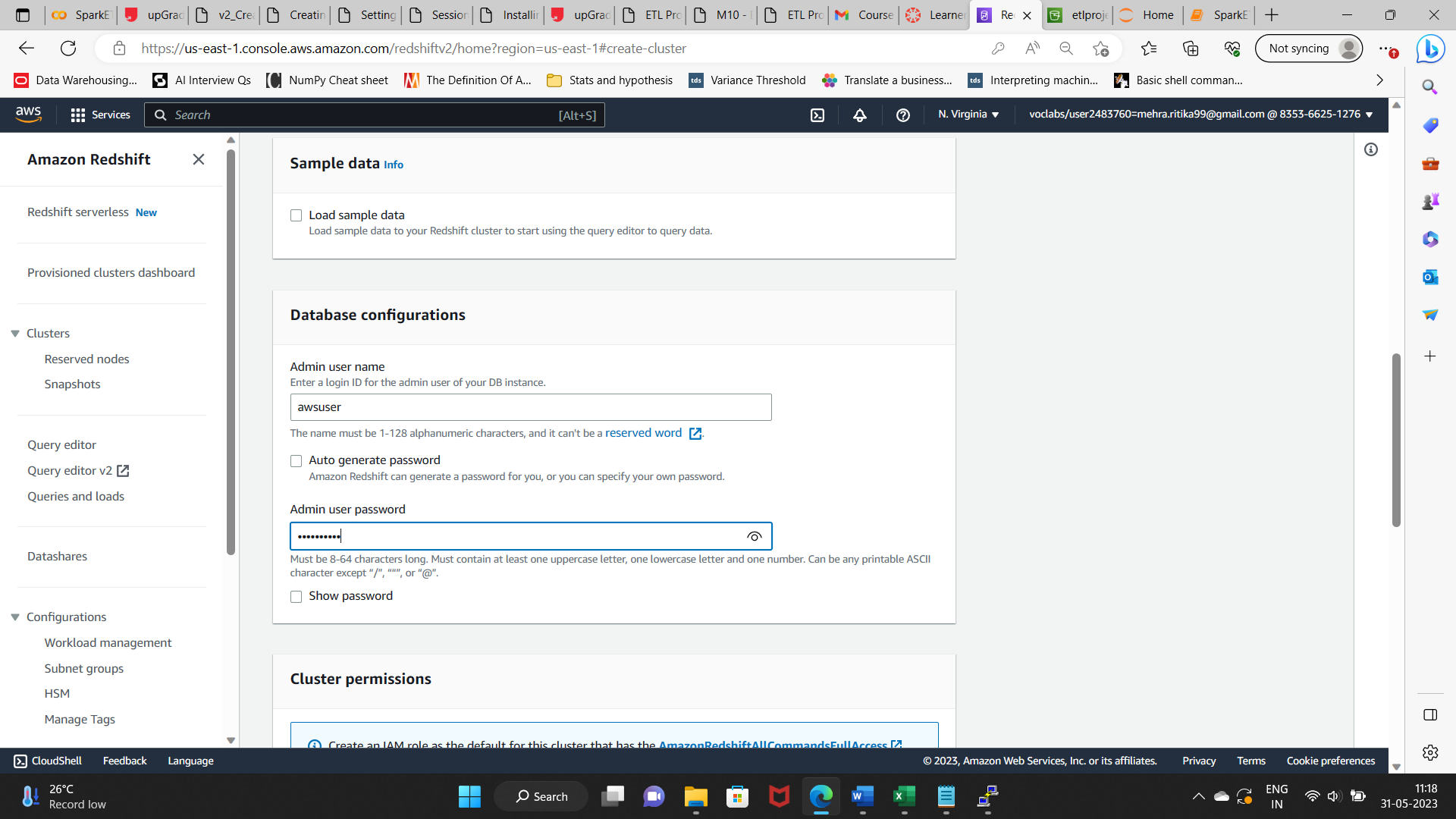


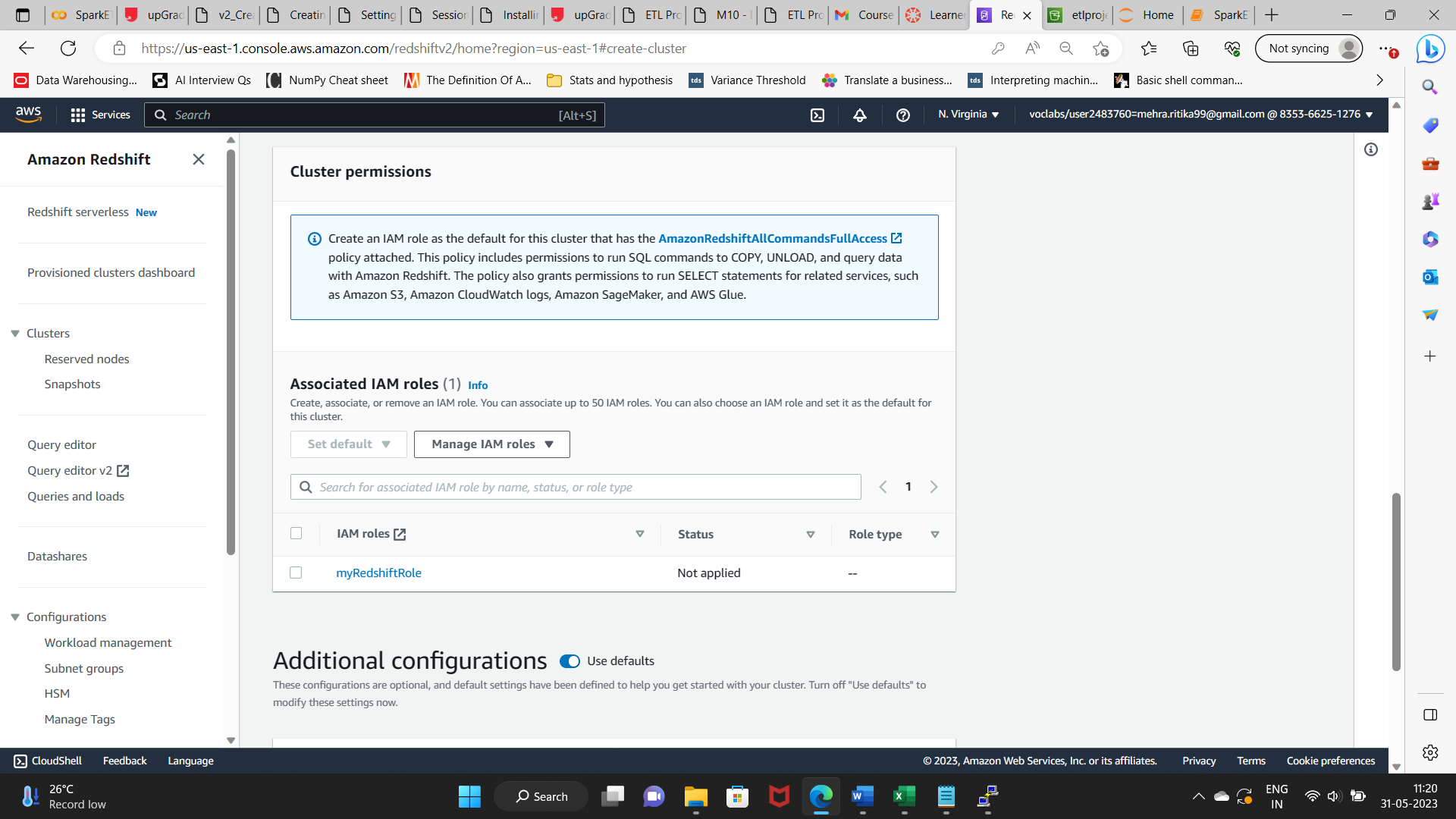


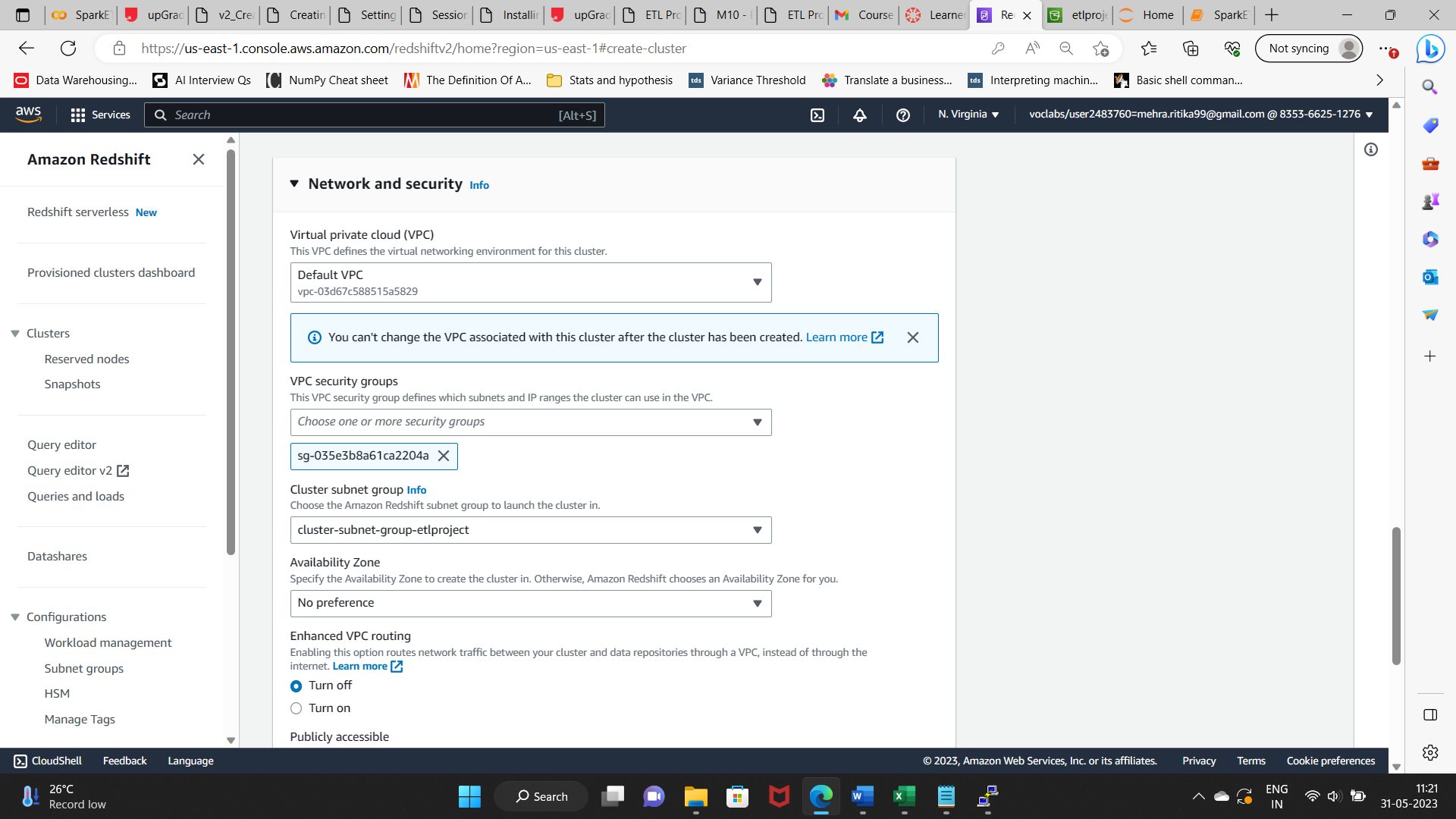
Creating Cluster

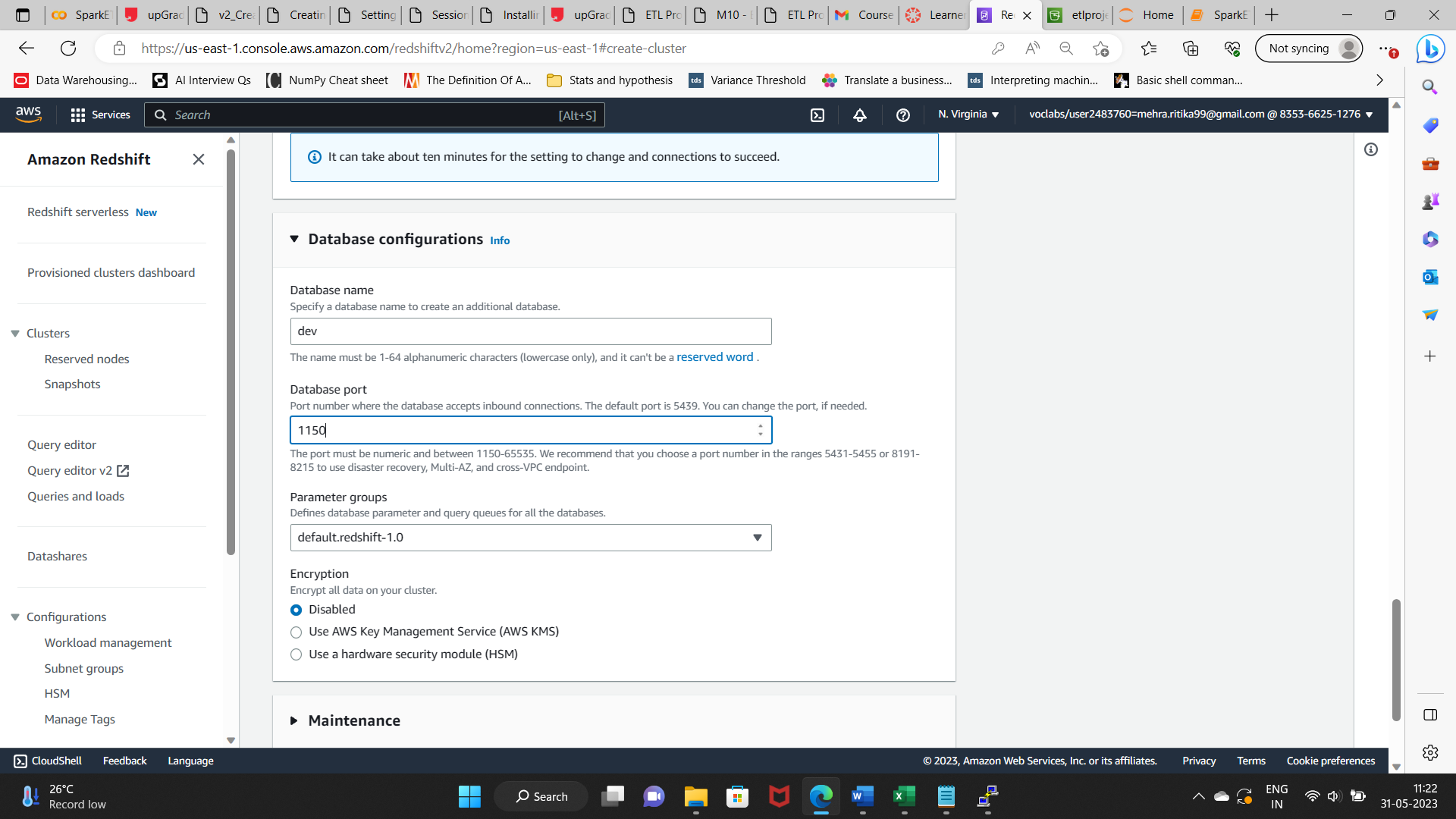


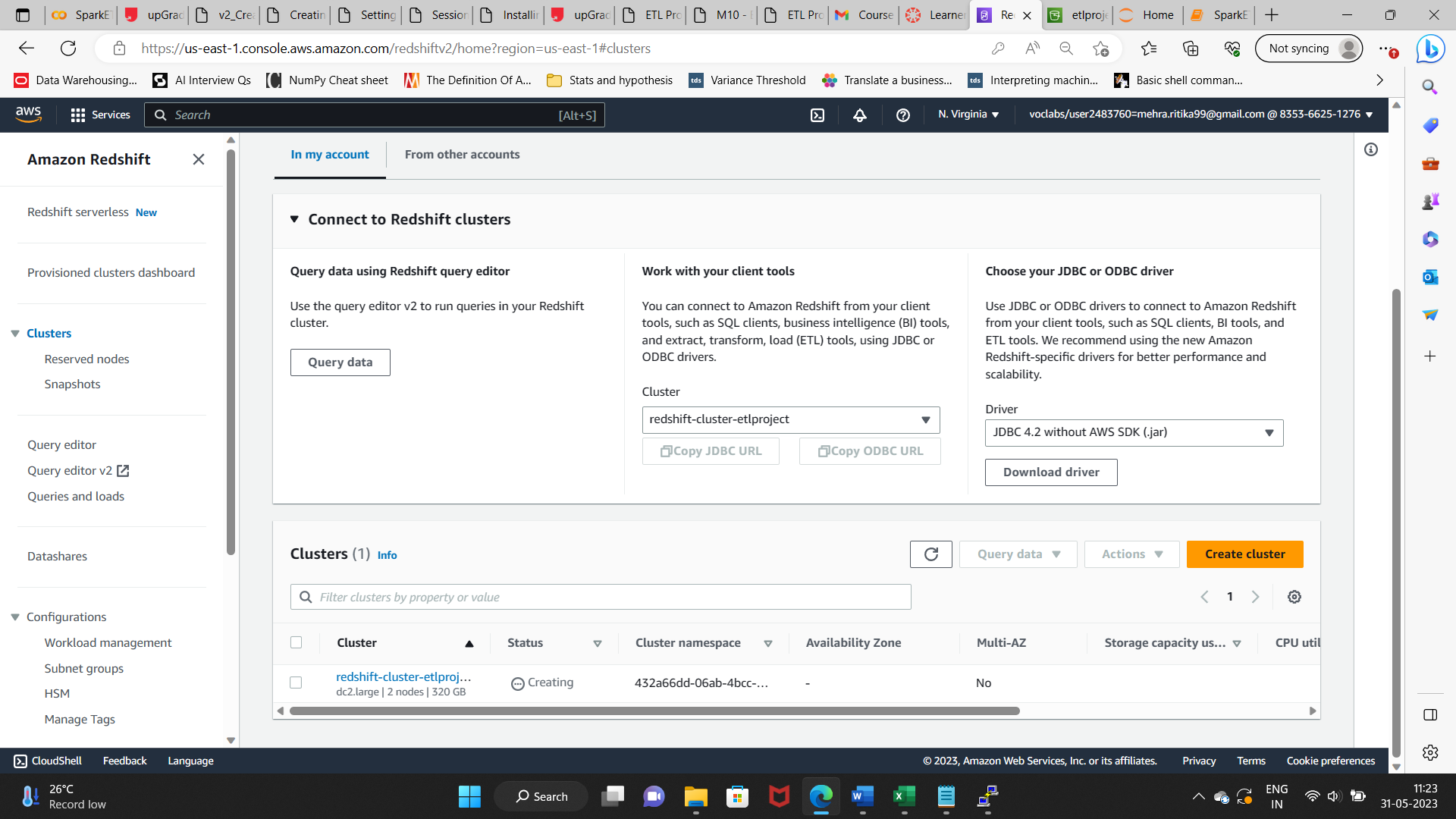
Node type: dc2.large, Number of Node: 2



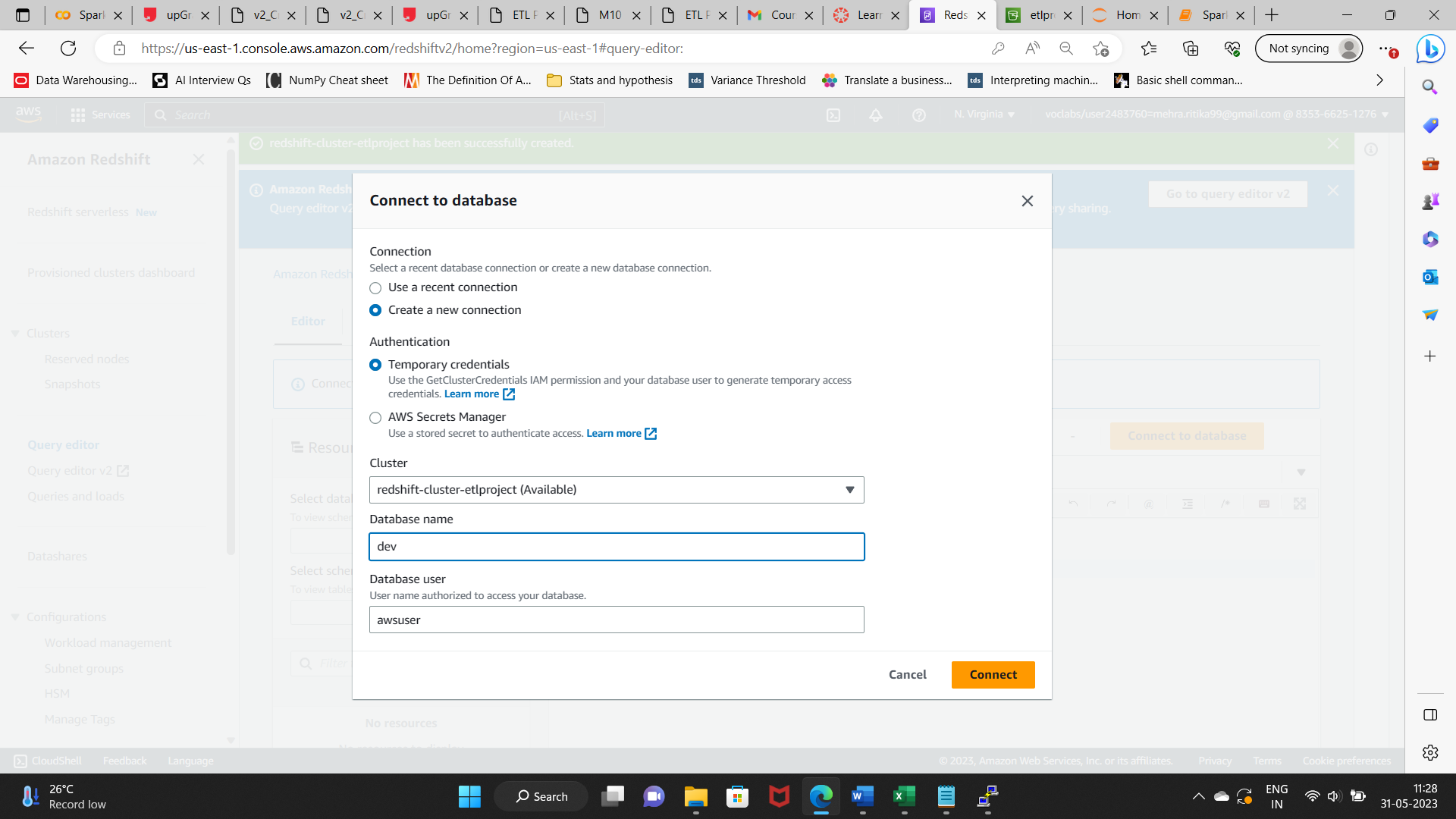


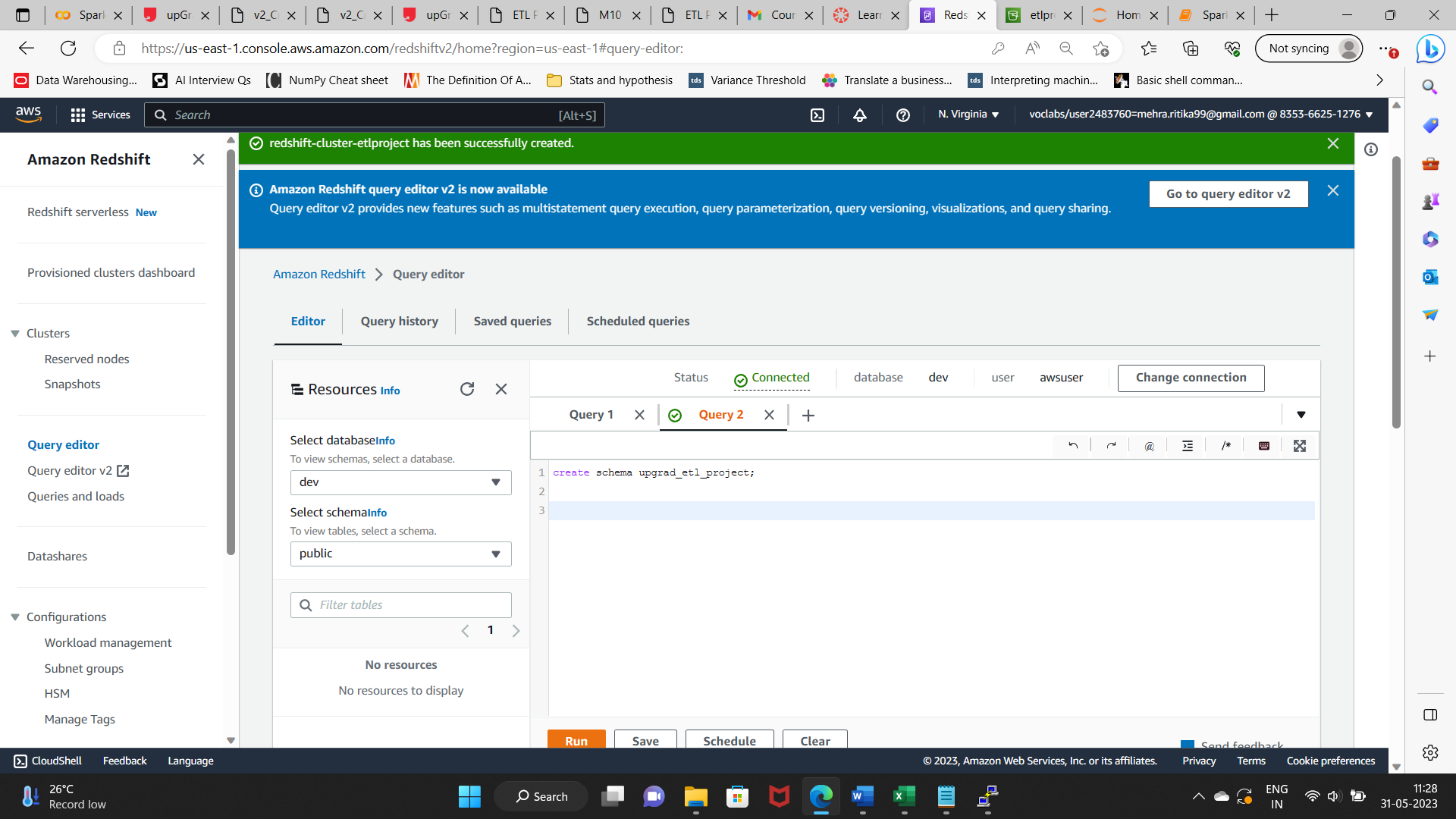


Changed default database port to 1150 for better security.



### Setting up a database in the Redshift cluster and running queries to create the dimension and fact tables





**Queries to create the various dimension and fact tables with appropriate primary and foreign keys:**

Schema Creation:

create schema upgrad\_etl\_proj;



Dimension tables creation:

1. Location Dimension:

create table upgrad\_etl\_proj.dim\_location(

location\_id INT NOT NULL,

location VARCHAR(50),

streetname VARCHAR(255),

street\_number INT,

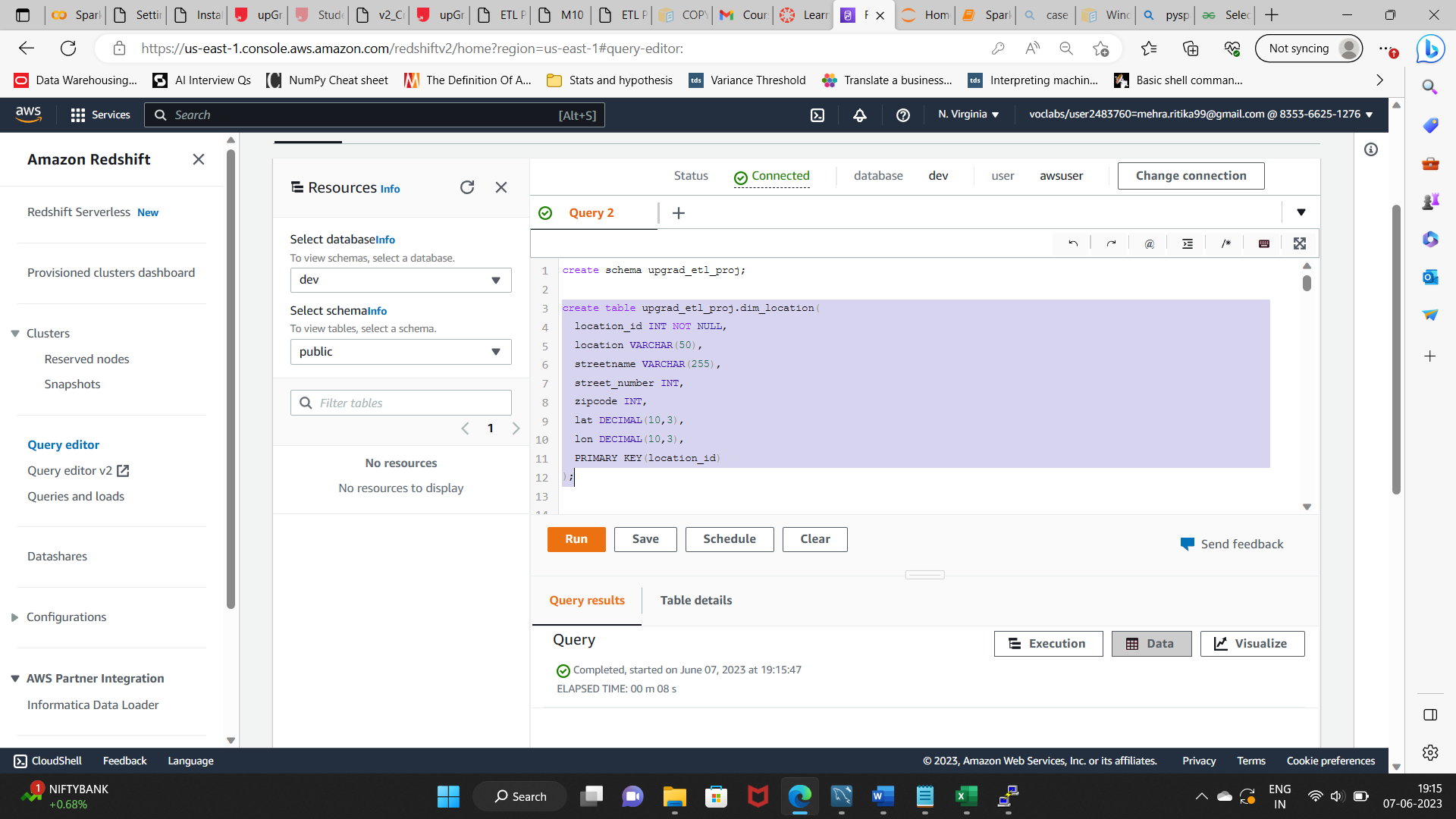
zipcode INT,

lat DECIMAL(10,3),

lon DECIMAL(10,3),

PRIMARY KEY(location\_id)

);



1. ATM Dimension

create table upgrad\_etl\_proj.dim\_atm(

atm\_id INT,

atm\_number VARCHAR(20),

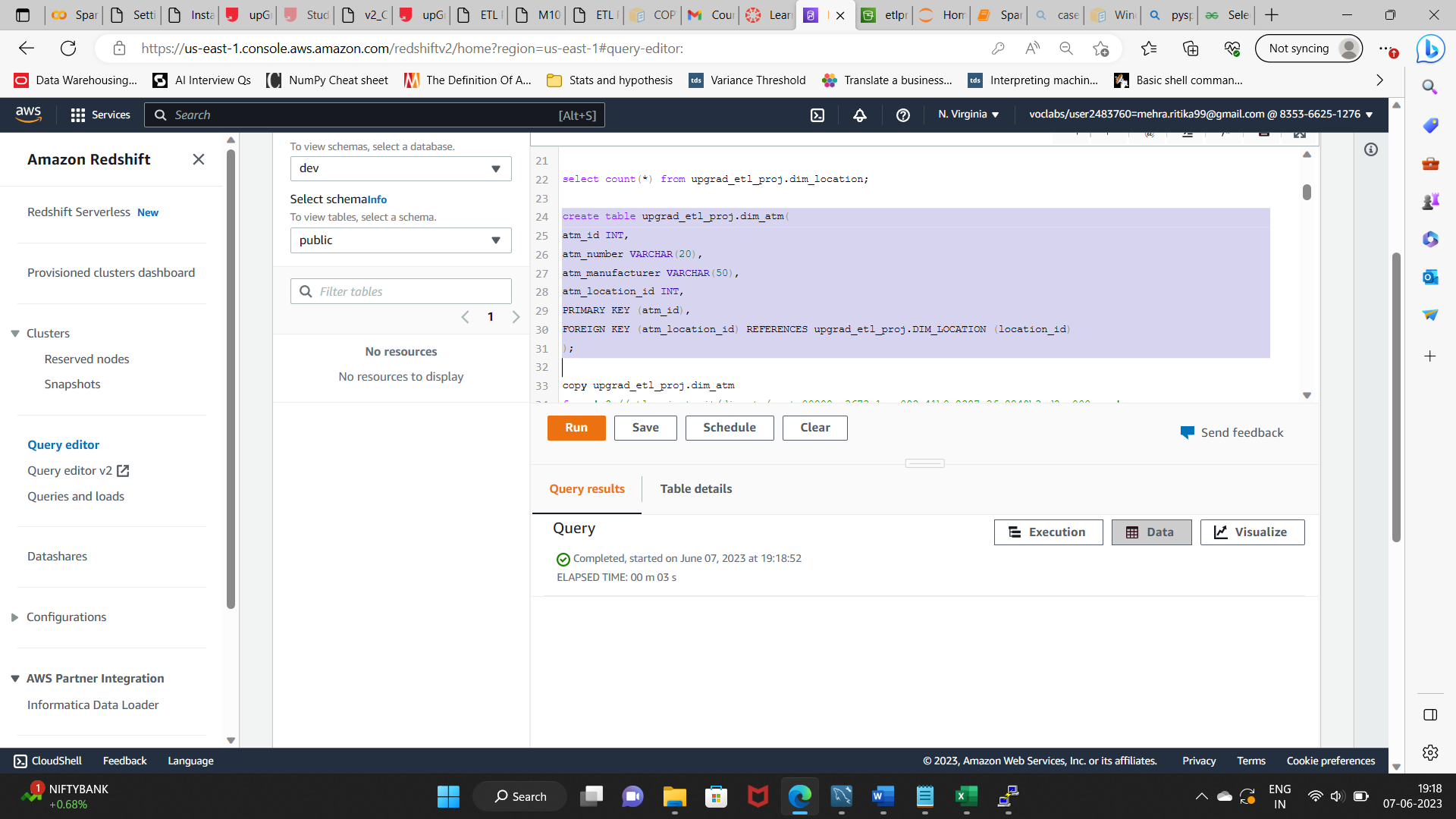
atm\_manufacturer VARCHAR(50),

atm\_location\_id INT,

PRIMARY KEY (atm\_id),

FOREIGN KEY (atm\_location\_id) REFERENCES upgrad\_etl\_proj.DIM\_LOCATION (location\_id)

);



1. Date Dimension

create table upgrad\_etl\_proj.dim\_date(

date\_id INT,

full\_date\_time TIMESTAMP,

year INT,

month VARCHAR(20),

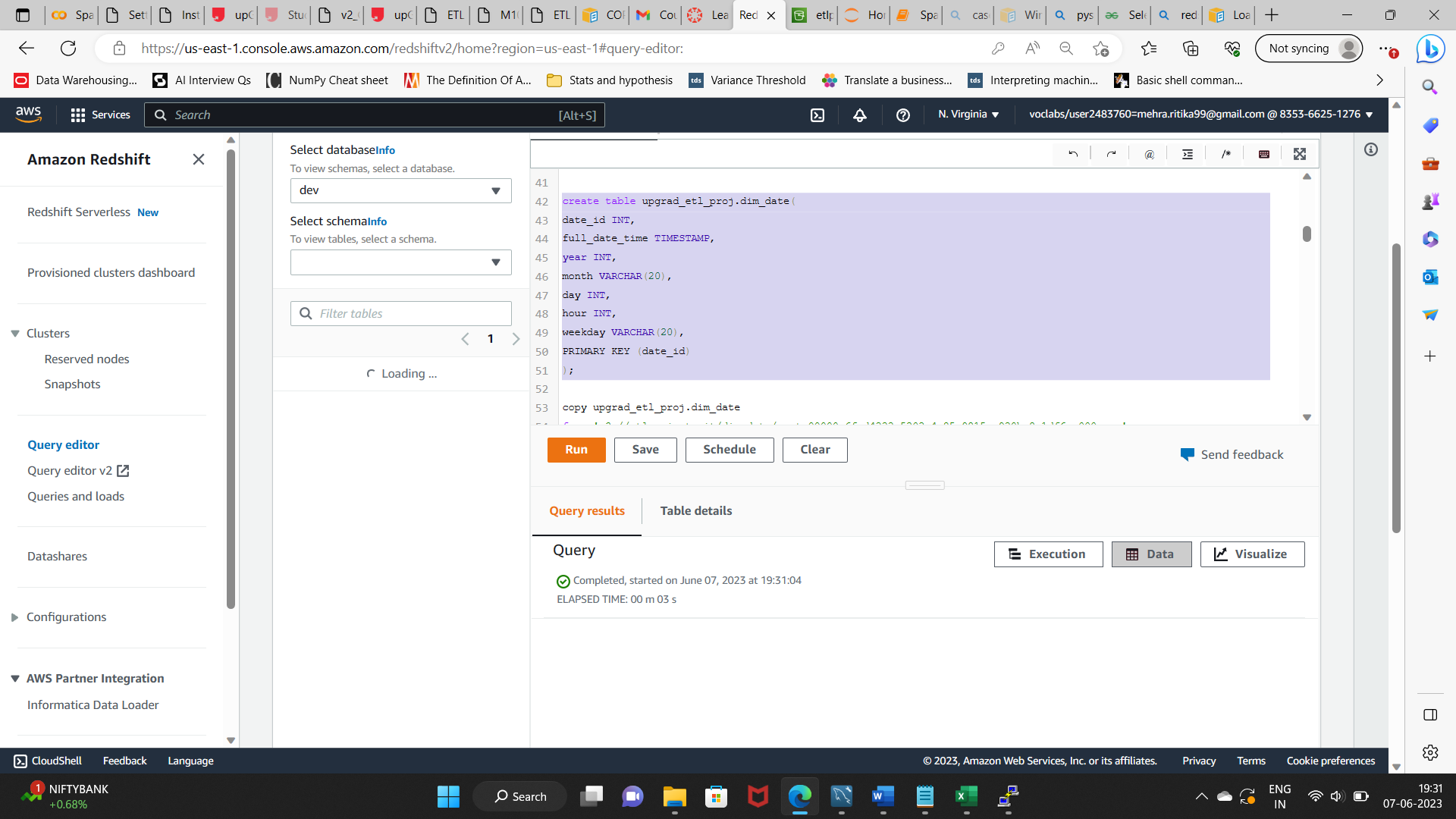
day INT,

hour INT,

weekday VARCHAR(20),

PRIMARY KEY (date\_id)

);



1. Card Type Dimension

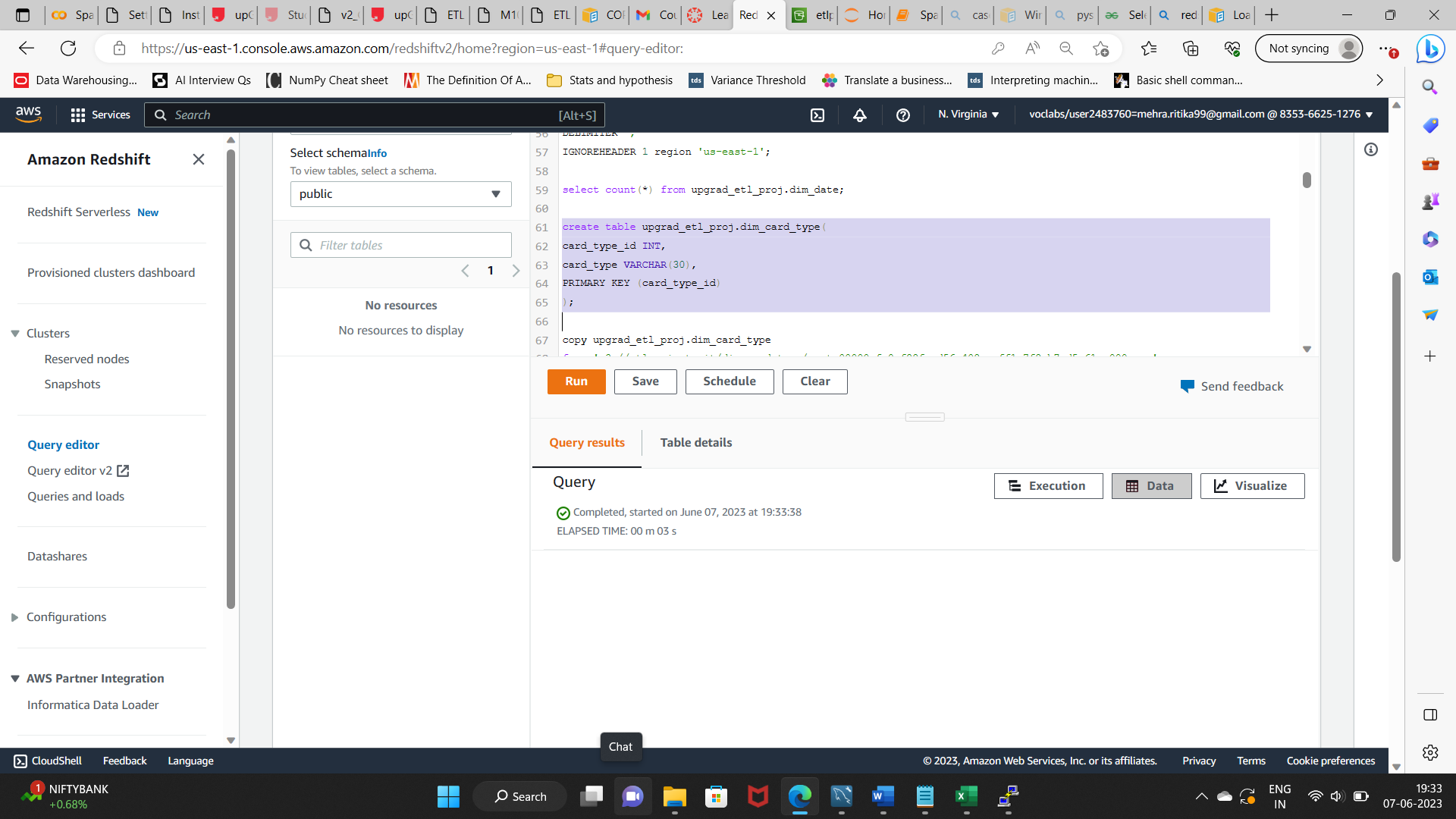
create table upgrad\_etl\_proj.dim\_card\_type(

card\_type\_id INT,

card\_type VARCHAR(30),

PRIMARY KEY (card\_type\_id)

);



Fact Table Creation:

create table upgrad\_etl\_proj.fact\_atm\_trans(

trans\_id BIGINT,

atm\_id INT,

weather\_loc\_id INT,

date\_id INT,

card\_type\_id INT,

atm\_status VARCHAR(20),

currency VARCHAR(10),

service VARCHAR(20),

transaction\_amount INT,

message\_code VARCHAR(255),

message\_text VARCHAR(255),

rain\_3h DECIMAL(10,3),

clouds\_all DECIMAL(10,3),

weather\_id INT,

weather\_main VARCHAR(50),

weather\_description VARCHAR(255),

PRIMARY KEY (trans\_id),

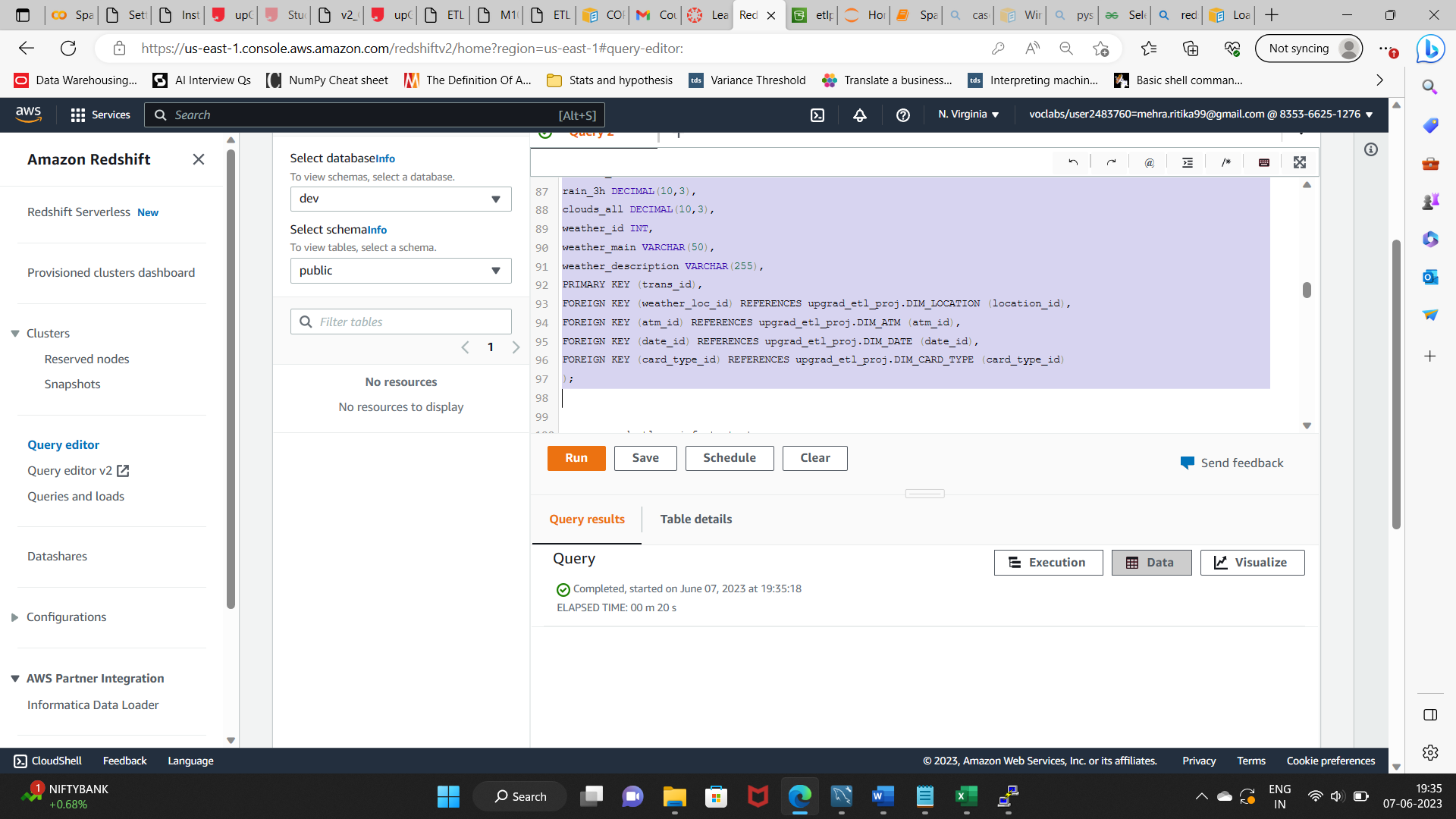
FOREIGN KEY (weather\_loc\_id) REFERENCES upgrad\_etl\_proj.DIM\_LOCATION (location\_id),

FOREIGN KEY (atm\_id) REFERENCES upgrad\_etl\_proj.DIM\_ATM (atm\_id),

FOREIGN KEY (date\_id) REFERENCES upgrad\_etl\_proj.DIM\_DATE (date\_id),

FOREIGN KEY (card\_type\_id) REFERENCES upgrad\_etl\_proj.DIM\_CARD\_TYPE (card\_type\_id)

);



### Loading data into a Redshift cluster from Amazon S3 bucket

**Queries to copy the data from S3 buckets to the Redshift cluster in the appropriate tables**

**Note: All copy commands have s3 location path to indicate file starting with part as the file name changes for each fresh run.**

1. **Loading data to location dimension table.**

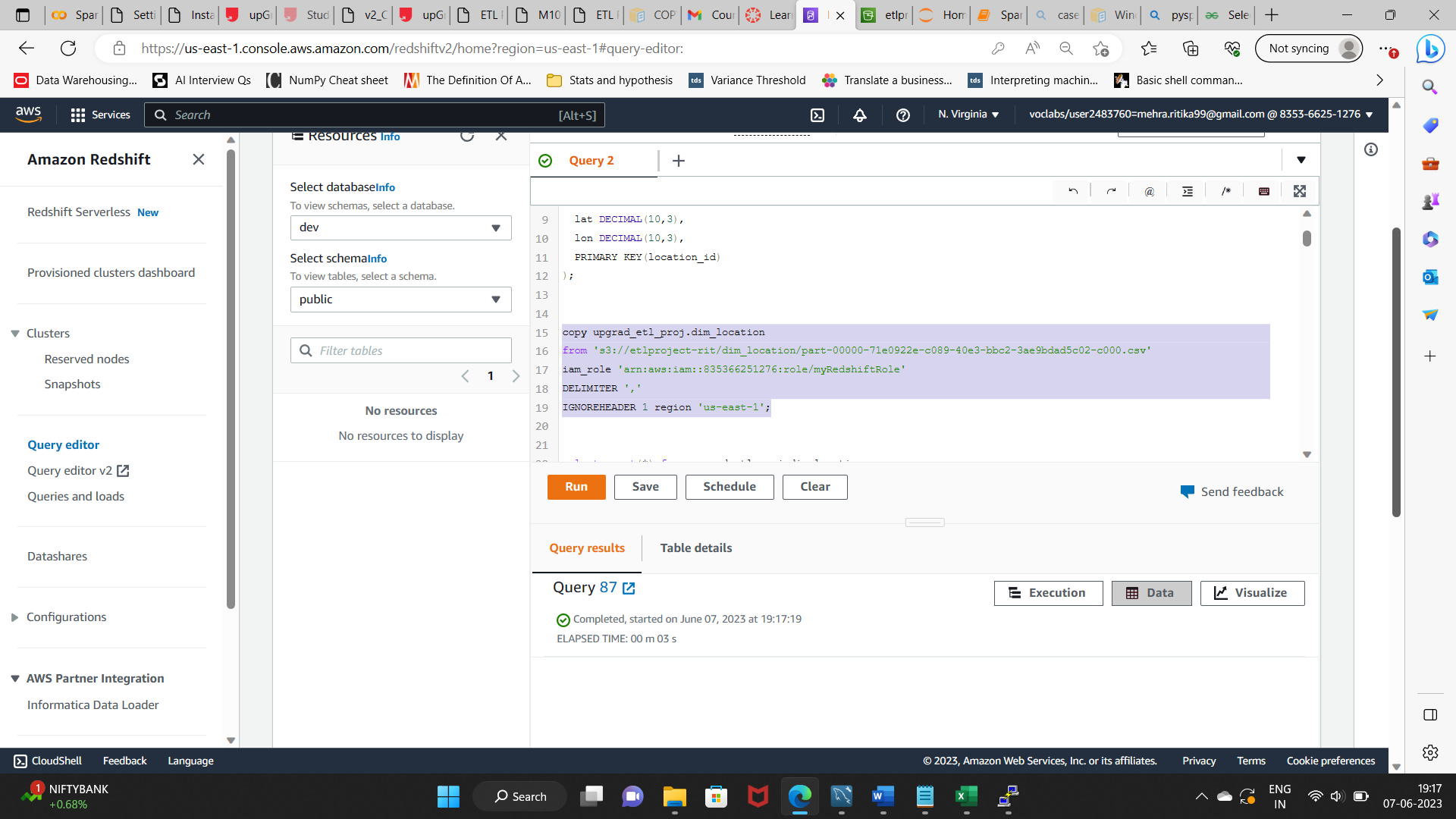
copy upgrad\_etl\_proj.dim\_location

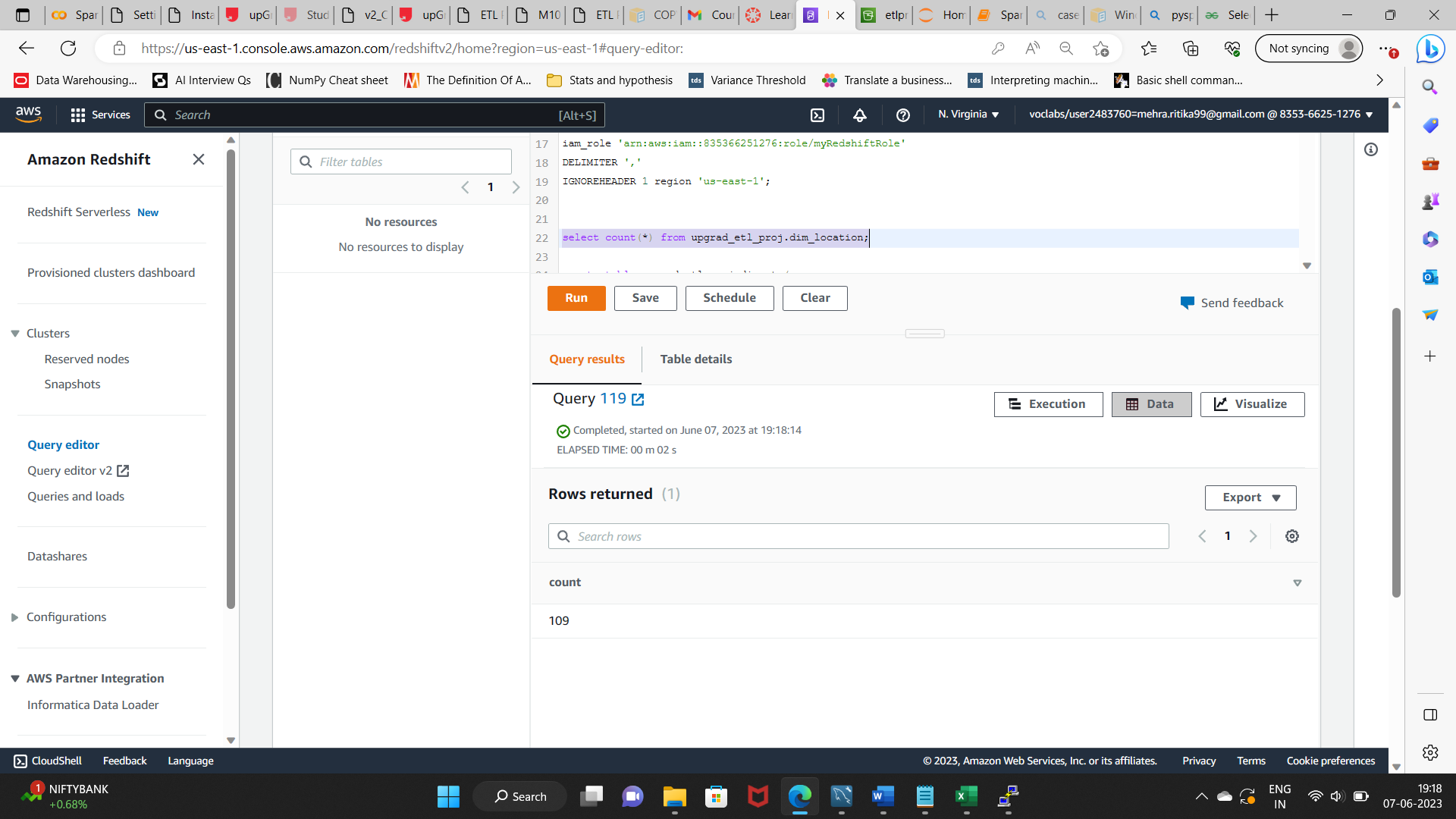
from 's3://etlproject-rit/dim\_location/part'

iam\_role 'arn:aws:iam::835366251276:role/myRedshiftRole'

DELIMITER ','

IGNOREHEADER 1 region 'us-east-1';





1. **Loading data to atm dimension table.**

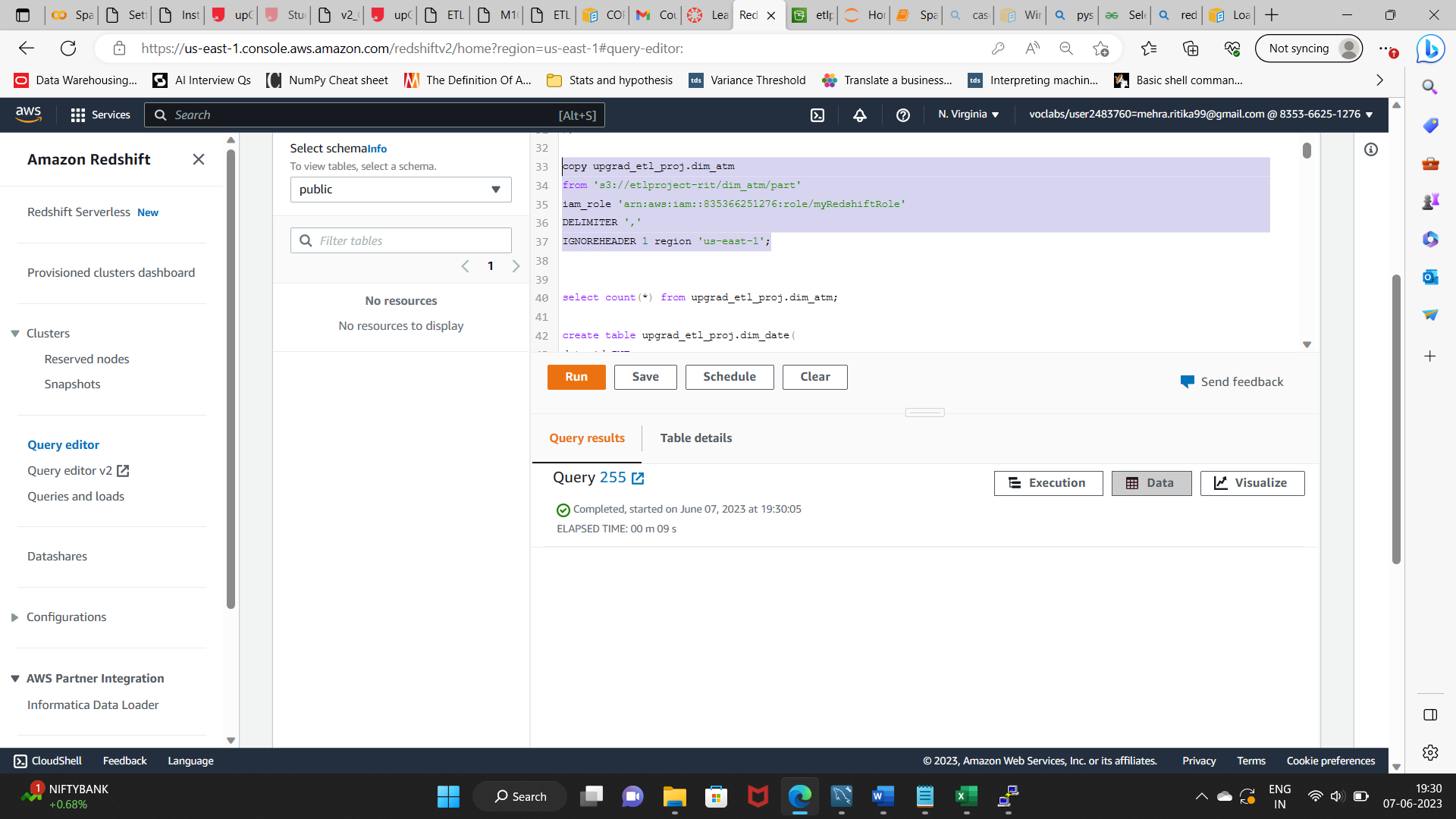
copy upgrad\_etl\_proj.dim\_atm

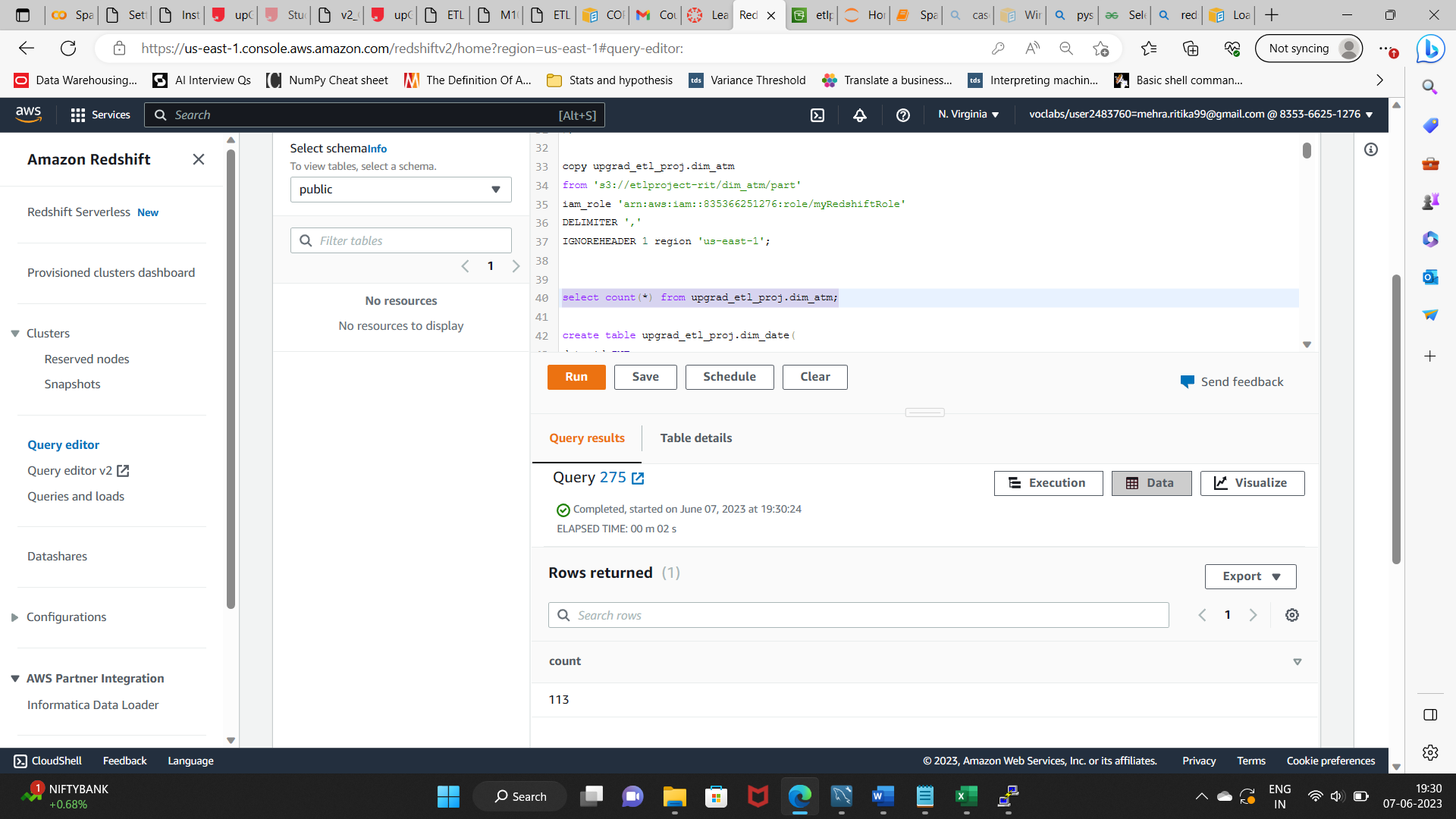
from 's3://etlproject-rit/dim\_atm/part'

iam\_role 'arn:aws:iam::835366251276:role/myRedshiftRole'

DELIMITER ','

IGNOREHEADER 1 region 'us-east-1';





1. **Loading data to date dimension table.**

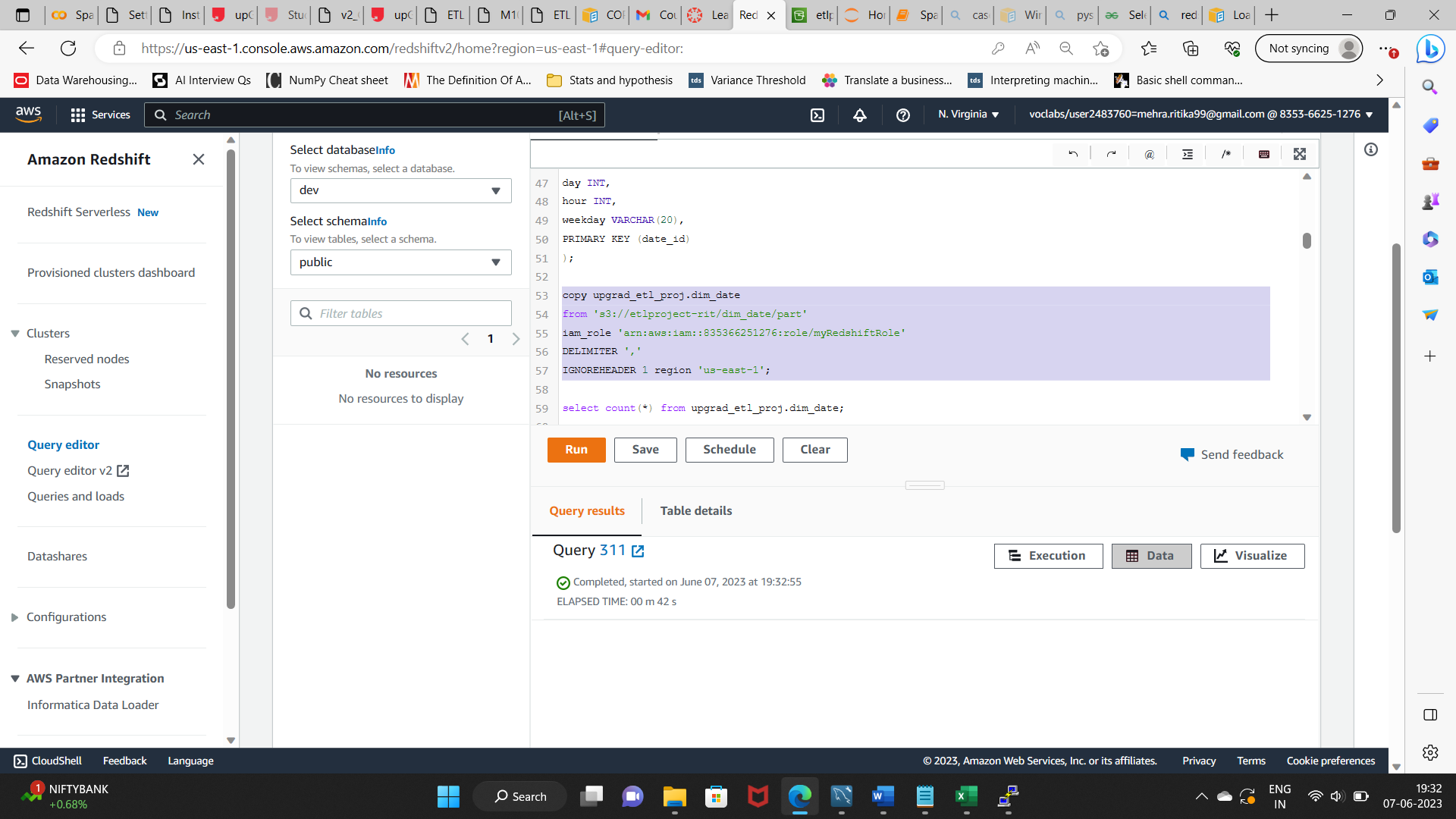
copy upgrad\_etl\_proj.dim\_date

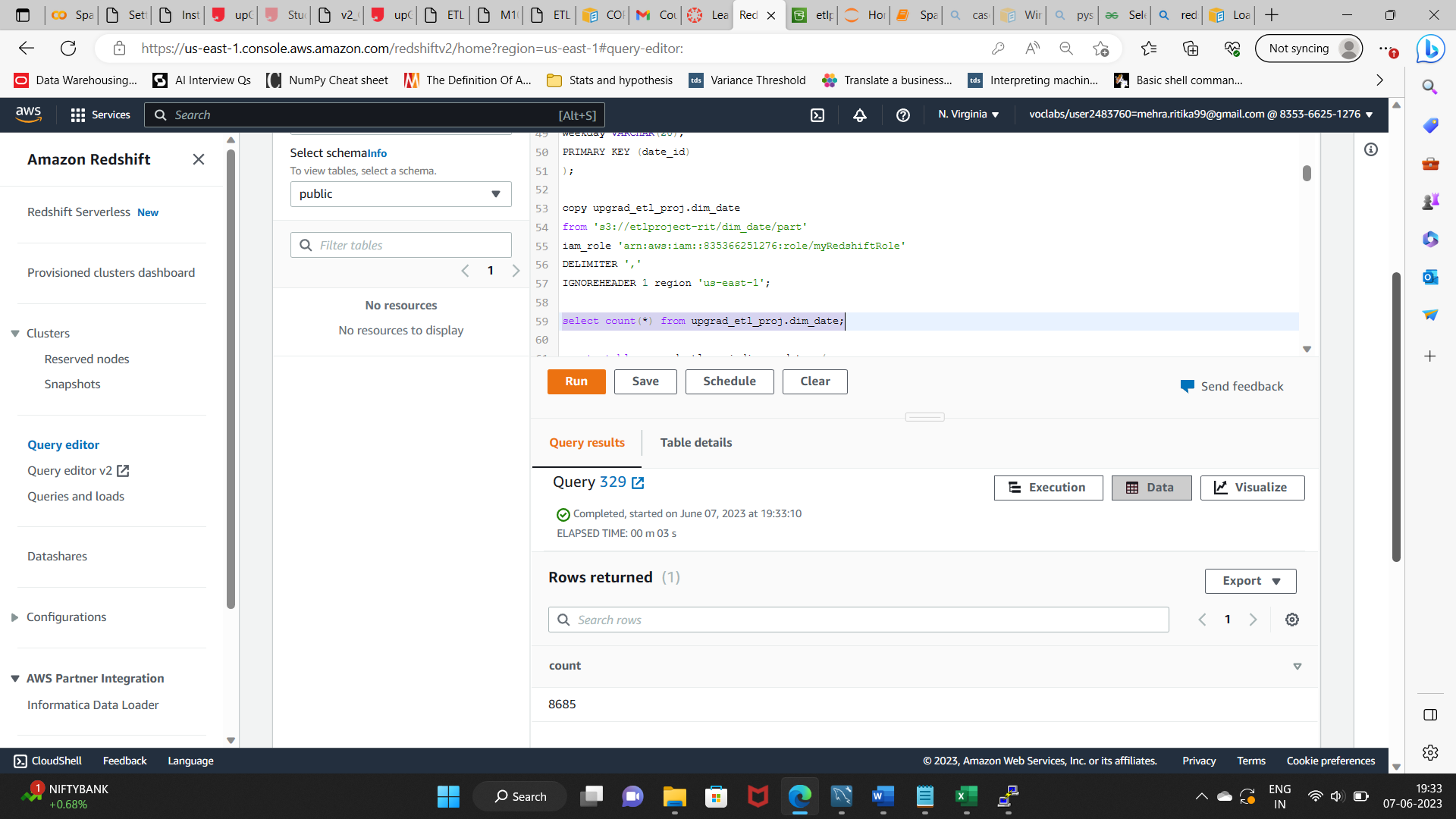
from 's3://etlproject-rit/dim\_date/part'

iam\_role 'arn:aws:iam::835366251276:role/myRedshiftRole'

DELIMITER ','

IGNOREHEADER 1 region 'us-east-1';





1. **Loading data to card type dimension table.**

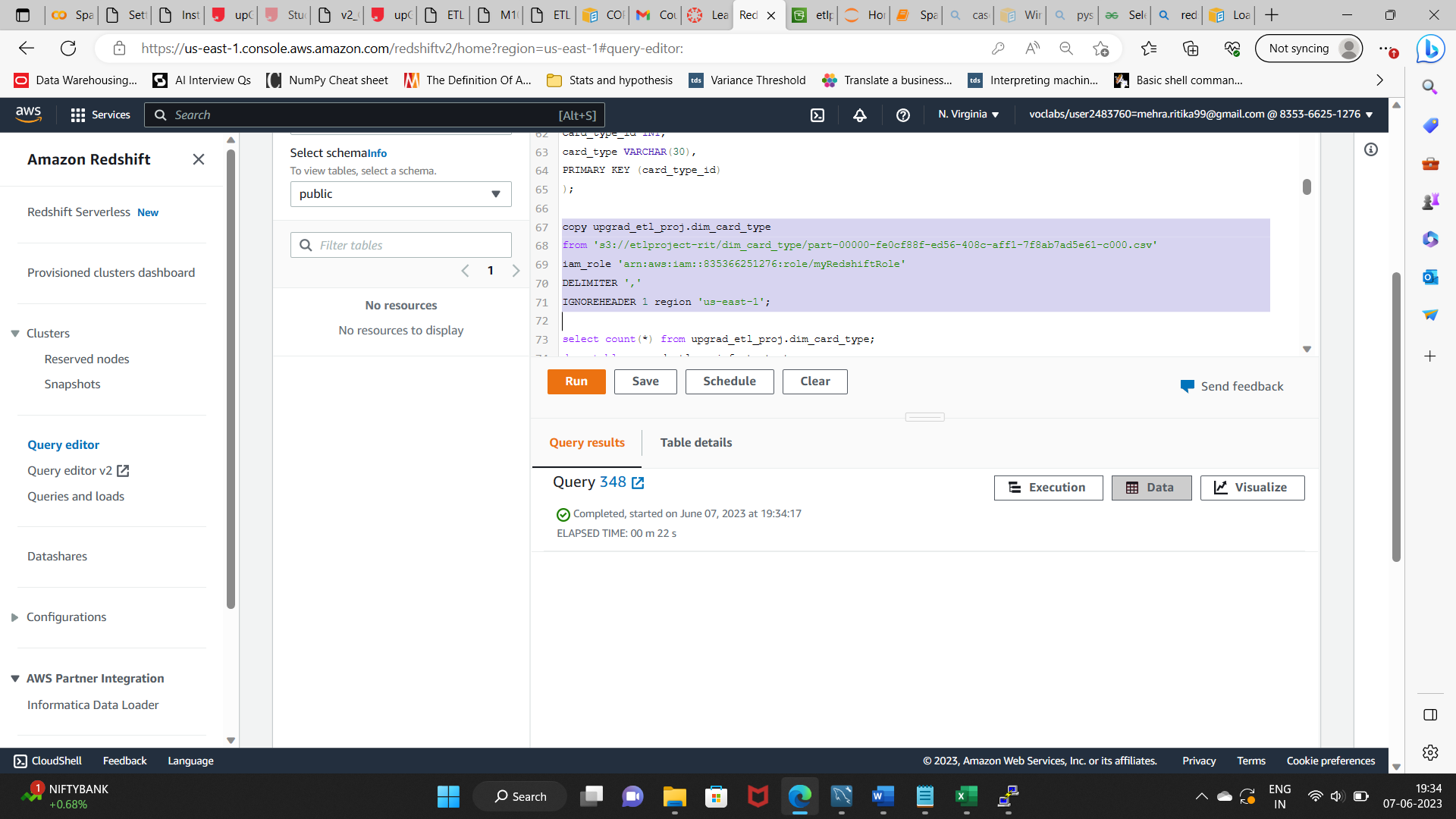
copy upgrad\_etl\_proj.dim\_card\_type

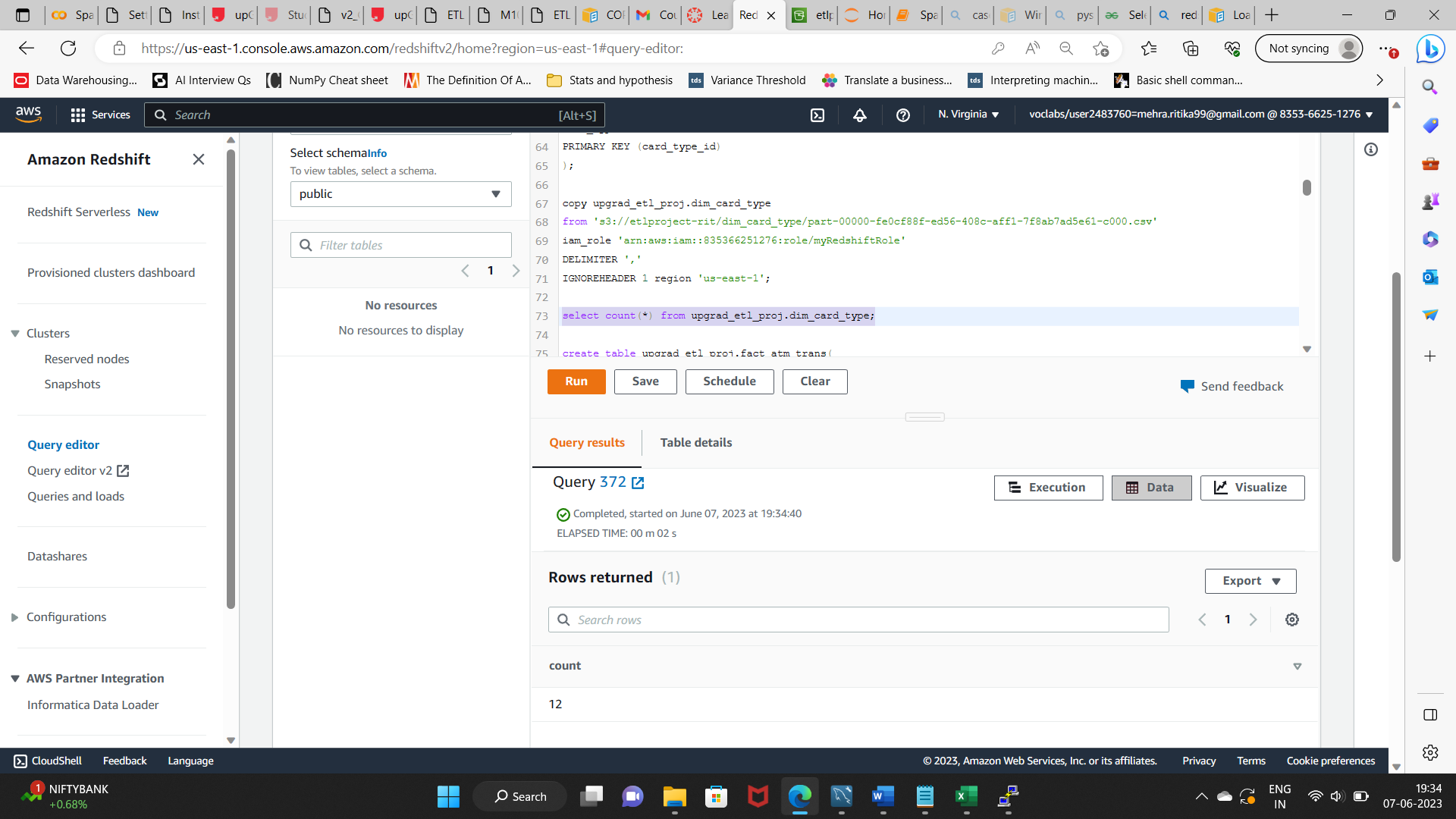
from 's3://etlproject-rit/dim\_card\_type/part'

iam\_role 'arn:aws:iam::835366251276:role/myRedshiftRole'

DELIMITER ','

IGNOREHEADER 1 region 'us-east-1';





1. **Loading data to fact table.**

copy upgrad\_etl\_proj.fact\_atm\_trans

from 's3://etlproject-rit/fact\_atm\_trans/part'

iam\_role 'arn:aws:iam::835366251276:role/myRedshiftRole'

IGNOREHEADER 1 region 'us-east-1'

csv;

